UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/970,668	11/13/97	DHAL	P C-8282

IM51/0609

DAVID J CULE
POLAROID CORPORATION
PATENT DEPARTMENT
575 TECHNOLOGY SQUARE
CAMBRIDGE MA 02139-3587

EXAMINER	
ANGEBRANNDT,M	
ART UNIT	**PAPER NUMBER**
1752	4

DATE MAILED: 06/09/98

Please find below and/or attached an Office communication concerning this application or pr ceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/970,066	Applicant(s) Dhal et al.
	Examiner Martin J. Angebranndt	Group Art Unit 1752

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-27* is/are pending in the application.

Of the above, claim(s) *15-27* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-14* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims *1-27* are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

15 Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-14, drawn to a process of forming a hologram using epoxides, classified in class 430, subclass 02.

II. Claims 15-27, drawn to a photosensitive composition containing epoxides, classified in class 430, subclass 281.1.

16 Inventions group II and group I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product may be used to form other photocured materials including molded articles, cured protective coatings and the like

17 Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

18 During a telephone conversation with David J. Cole on June 3, 1998, a provisional election was made with traverse to prosecute the invention of group I, claims 1-14. Affirmation of this election must be made by applicant in responding to this Office action. Claims 15-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

19 Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

20 Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, please replace "thereby forming within said medium and interference pattern" with "causing the reference beam and object beam to interfere within said medium-- to clarify the process. Also it could be indicated that the hologram is formed by cationic polymerization in the last line.

21 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

22 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23 Claims 1,3,12-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 05-094014.

The examples either teach the use of multiple epoxy resins/oligomers or alternatively it would have been obvious to use them based upon the direction to do so.

24 Claims 1-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dhal et al. WO/97/13118, in view of Ohe et al. '345 and Keys et al. '567.

Dhal et al. WO/97/13118 teaches the use of compositions including at least one monomer or oligomer capable of undergoing cationic photopolymerization. The use of any monomer capable of undergoing cationic polymerization is disclosed on pages 6 and 7. Useful photosensitizers and photointitiators are disclosed on pages 5 and 7. Useful binders are disclosed on page 4.

Ohe et al. '345 teaches the use of cationically polymerizable materials which result in improved diffraction efficiency and superior environmental properties. Useful epoxides include those disclosed in columns 12-15.

Keys et al. '567 teaches that when more crosslinking is desired, the use of multi functional monomers in amounts up to 5% is a means to achieves this.

It would have been obvious to one skilled in the art to add other, multi functional epoxy monomers/oligomers, such as those disclosed by Ohe et al. '345, to the composition of Dhal et al. WO/97/13118 and use them in forming a hologram based upon the direction to use more than one

and that any cationically polymerizable compound(s) would be useful in the composition within the Dhal et al. WO/97/13118 reference, their previous use within the holographic art by Ohe et al. '345 and the direction to the addition of polyfunctional monomers when increased crosslinking is desired in the holographic art by Keys et al. '567.

25 Claims 1-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dhal et al. WO/97/13118, in view of Ohe et al. '345, Keys et al. '567 and Sato et al. '846

Sato et al. '846 teaches useful cationic polymerizable compounds (3/5-4/4) The use of compounds having a siloxane group increases, refractive index modulation. This includes compounds embraced by formula (I).

In addition to the basis provided above, the examiner holds that it would have been obvious to use other siloxane compounds known to be useful cationically polymerizable materials, such as those disclosed by Sato et al. '846, in place of those specifically used in the examples of Dhal et al. WO/97/13118 as modified by Ohe et al. '345 and Keys et al. '567 with a reasonable expectation of achieving comparable results and that any cationically polymerizable compound(s) would be useful in the composition within the Dhal et al. WO/97/13118 reference.

26 Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dhal et al. WO/97/13118, in view of Ohe et al. '345, Keys et al. '567 and Crivallo et al. J. Polymer Sci. and/or Eckberg et al. EP 0391162.

Crivallo et al. J. Polymer Sci.,Vol. 28A pp. 479-503 teaches the use of various epoxy silane compounds including those shown in tables I and II. Useful properties appear in pp 501-503

Eckberg et al. EP 0391162 teaches the use of cationically curable compounds embraced by the formula shown in the abstract and on page 5 with cationic photoinitiators.

In addition to the basis provided above, the examiner holds that it would have been obvious to use other siloxane compounds known to be useful cationically polymerizable materials, such as those disclosed by Crivallo et al. J. Polymer Sci. and/or Eckberg et al. EP 0391162, in place of those specifically used in the examples of Dhal et al. WO/97/13118 as modified by Ohe et al. '345 and Keys et al. '567 with a reasonable expectation of achieving comparable results and that any cationically polymerizable compound(s) would be useful in the composition within the Dhal et al. WO/97/13118 reference.

27 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawabata et al. '340 teaches the use of cationically polymerizable compounds in mixed systems and is considered cumulative to the above references.

Rallison '990 teaches the use of UV curable epoxides applied after hologram formation followed by curing thereof.

Note that the patent from the assignee's application 08/743,419 is due to issue but has not at this point and may be substituted in the future for the PCT equivalent cited above after it has issued.

28 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Angebranndt whose telephone number is (703) 308-4397.

I am normally available between 7:30 AM and 5:00 PM, Monday through Thursday and 7:30 AM and 4:00 PM on alternate Fridays.

If repeated attempts to reach me are unsuccessful, my supervisor may be reached at (703) 308-2303.

Facsimile correspondence should be directed to (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Martin J. Angebranndt
Primary Examiner, Group 1750
June 4, 1998